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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/510,116	02/22/2000	Anthony D Minervini	804RP746	2137
29176	7590	04/22/2004	EXAMINER	
BELL, BOYD & LLOYD LLC P. O. BOX 1135 CHICAGO, IL 60690-1135			EASTHOM, KARL D	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/510,116	MINERVINI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Karl D Easthom	2832	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☐ Claim(s) 1-5, 7, 8, 10-16 and 18-42 is/are pending in the application.
- 4a) Of the above claim(s) 33-37 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16, 18-32 and 38-42 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 8 and 10-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7-8, and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9-266105, in view of Niihara et al. (JP 6-69416), or McGuire et al. '403. JP '105 disclose the claimed invention at the abstract and Fig. 6, except the PTC thermistor elements being polymer. JP '105 discloses PTC elements 11, substrates 16,17, electrodes 13, and end terminations 23. Niihara discloses polymer PTC resistors and discloses the latter are useful for replacing ceramic thermistors such as that of JP '105 at par. 16 in order to form a reduced size. McGuire discloses that ceramic and polymer thermistor devices are well known for current protection at col. 1, in order to reduce the size. It would have been obvious to substitute one well known material for another where both are PTC circuit protection devices, where one has certain advantages such as reduced size, and polymer devices need not be sintered as ceramics. In claims 2-5, the wrap around electrodes 23 are on the substrates at first and second ends in direct contact with the electrodes 13. As to claim 7, ceramic, dielectric or other material is disclosed at the top of col. 8 of McGuire, and where copper is disclosed for the electrodes at col. 5, lines 5-12, the insulating layer is deemed a copper clad PC board since it can be used as a PC board and no other printed circuits are on same. It would have been obvious to replace the well known equivalent materials in the electrical resistor arts for each other where JP 105 employs a ceramic to insulate, and to employ the copper conduct to conduct electricity for the purpose of employing well known replacement parts during shortage of other equivalent parts. As to

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claims 14-15, the multiple layer foils are disclosed as a known electrode for polymers in McGuire as 100,150,180 for example, so that it would have been obvious to employ the materials that are known to be compatible with metal foils. In claim 13, the current flows from end termination to end termination. In claim 11, the third substrate is one of 16, 17. with second PTC element 11. In claim 12, the thermistors are in parallel.

3. Claims 16, 18-32 and 38-42 are allowed.

4. Applicant's arguments filed 2/20/04 have been considered but are not persuasive.

Applicant argues there is no suggestion for replacing ceramic PTC materials for polymer PTC materials. This is not correct. The two materials are known replacements for one another as noted above in the art applied. There is no vitiation of operation due to claim 2 because in order to change resistance, one would merely alter the polymer elements. Also, applicant's argument implies claim 2 vitiates claim 1 which would defeat the purpose of a broad claim. Applicant argues that the insulating adhesive 16 is not a substrate that is insulating and supporting, but this is not correct since the adhesive is both.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl D Easthom whose telephone number is (571) 272-1989.

The examiner can normally be reached on M-Th, 5:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karl D Easthom  
Primary Examiner  
Art Unit 2832

KDE